

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
17 March 2005 (17.03.2005)

PCT

(10) International Publication Number
WO 2005/024065 A2

- (51) International Patent Classification⁷: **C12Q 1/68**
- (21) International Application Number:
PCT/JP2004/013264
- (22) International Filing Date:
6 September 2004 (06.09.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
2003-314662 5 September 2003 (05.09.2003) JP
- (71) Applicant (for all designated States except US): **EBARA CORPORATION** [JP/JP]; 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **TAKATOH, Chikako** [JP/JP]; 23-4-201, Asahi-cho, Sagamihara-shi, Kanagawa 2280402 (JP). **TAKEDA, Kazuyoshi** [JP/JP]; 22, Yaguchidai, Naka-ku, Yokohama-shi, Kanagawa 2310831 (JP). **SATO, Hirokazu** [JP/JP]; 139-6-5-512, Kamisakunobe, Takatsu-ku, Kawasaki-shi, Kanagawa 2130034 (JP). **SAITO, Takayuki** [JP/JP]; 4-5-7, Shinomiya, Hiratsuka-shi, Kanagawa 2540014 (JP). **MATSUMOTO, Takuya** [JP/JP]; 7-1-102, Matsuodairi-cho, Saikyo-ku, Kyoto-shi, Kyoto 6158282 (JP). **KAWAI, Tomoji** [JP/JP]; 5-26-15-615, Onoharahigashi, Minoo-shi, Osaka 5620031 (JP).
- (74) Agent: **KURITA, Tadahiko**; Yuasa and Hara, Section 206, New Ohtemachi Bldg., 2-1, Ohtemachi 2-chome, Chiyoda-ku, Tokyo 1000004 (JP).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CATIONIC DYE COMPOUND FOR DETECTING NUCLEIC ACID DOUBLE STRAND, AND DETECTION METHOD AND APPARATUS USING SAME

(57) Abstract: A cationic dye compound having novel uses, the cationic dye compound being capable of conveniently and rapidly detecting a nucleic acid double strand, and a detection method using the cationic dye compound are provided. This invention relates to a cationic dye compound for detecting a nucleic acid double strand, characterized in that the cationic dye compound contains a cation group, and a dye coupled to the cation group, and the dye has a heteropolycyclic structure containing nitrogen atoms as a matrix, and is helically bound onto the nucleic acid double strand.

WO 2005/024065 A2